DOCUMENT RESUME

ED 142 076 FL 008 740

AUTHOR McNeill, David
TITLE Final Report on Project 4LOG09-2.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C. Office of Research. Policy Studies Div.
PUB DATE Sep 73
CONTRACT NIE-C-74-0031
NOTE 11p.; For related document, see ED 084 908

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Child Language; Imitation; Japanese; *Language Development; *Language Patterns; *Language Research; Language Usage; *Parent Child Relationship; *Parent Influence; Phonology; Psycholinguistics; Sentence Structure

ABSTRACT

The frequency with which a child's parents use a given linguistic form has been considered influential in language development. This hypothesis has been challenged, however, notably by Ervin (1964) and Brown (1973). The frequency hypothesis makes the assumptions that: (1) children are not selective in what they attend to, (2) they listen to most of what they hear, and (3) what they do listen to is an unbiased sample of what is said. Using data from two Japanese girls recorded between the ages of 2 and 4, the present study shows that these assumptions are not wholly correct. As an index of whether the children were attending to adult speech or not, adult influences in what the children said were looked for, specifically in the form of imitations, answers to questions, replies and comments by the child, rejection of adult remarks, and miscellaneous indications, such as compliance to requests. These data were compared with the characteristics of children's speech when it is not under the influence of adult speech, including repetition, sound play, and unsystematic jumping from topic to topic. It is suggested that children do not attend to parental speech when they are engaged in some forms of internal activity, linguistic or otherwise. (Author/CLK)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

04152-6-09-R-B3

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY David McNeill

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND THE ERIC SYSTEM CONTRACTORS."

ED142076

Final Report on Project 4LOG09-2

Investigator: David McNeill
University of Chicago
September 10, 1973

Among the factors that have the potential to influence language development, the frequency with which a child's parents use a given linguistic form has been the subject of rather more discussion than most. In part this emphasis on frequency reflects the empiricist traditions of American psychology; in part it reflects the truth that a rare word like "automobile" tends to be acquired by children later than a frequent word like "car." However, the hypothesis that frequency of use in parental speech influences language development has not lacked detractors. Ervin (1964), for example, found that in the development of the past-tense marking on verbs, children supplant early-occurring forms which have a high adult frequency with other forms which have a virtually zero adult frequency. These are the irregular verbs (came, sat, etc.) which first occur in children's speech in the correct irregular form, and are later replaced by overgeneralizations (comed, sitted, etc.). Frequency of occurrence in adult speech, when it approaches zero, cannot explain this development.

More recently, Brown (1973) has carried out a thorough analysis of the correlation between the frequency of adult usage of 14 selected grammatical morphemes (present progressive--ing, in, on, plural, etc.) and the stage at which these same morphemes first reliably appear in the speech of three children. This analysis was based on extensive longitudinal data from the children and the

FL008740

parents. Looking at this correlation in several ways, Brown finds no evidence for the theory that frequency influences the order of development. Neither comparing the overall order of development by the children to the overall rank order of frequency in the parents speech, nor comparing the differences in the order of development among the individual children to the differences in relative frequency among the individual parents gave any evidence of a correlation between frequency and the sequence of development.

Why is this so? Why should there not be a correlation between adult frequency and the developmental sequence? It is not enough to say that, since children learn general patterns or rules in acquiring a language, there is no room for the kind of response learning in which frequency might play an important role. The frequency of the examples showing a pattern would be expected to be important as well; yet it does not seem so.

A frequency hypothesis makes an assumption that may be false. This assumption is that children are not selective in what they attend to, that they listen to most of what they hear, and what they do listen to is an unbiased sample of what is said. We have evidence from our study of two Japanese children that this assumption is not wholly correct.

Our data consist of transcribed tape recordings of adult and child speech made in the homes of two Japanese families. The children (whom I've dubbed Izanami and Murasaki) were born in 1963; both are girls and both live in Tokyo, Japan. The tape recordings were collected from 1965 through 1967, when the girls were 2 to 4 years of age, a half hour session every other week

from each child separately.

As an index of whether the children were attending to adult speech or not, we looked for adult influences in what the children were recorded as having said. In particular, we searched for:

1. Imitations, either partial or complete, immediate or delayed (up to several minutes). For example, Izanami's mother said: "Oh it's delicious" (Aa, oishii); nine utterances later, Izanami said "It was delicious" (Oishikatta). This sort of imitation, stimulated by the parent, was distinguished from self-imitation by the child, even when remarks by the parent were interspersed with the child's remarks. For example, the following sequence appeared in Izanami's record:

Izanami	Mother
Well, here's a little bird's pail	
	What is the little bird doing?
A little bird, Izanami's	
	You feed the little bird, don't you?
Oh, a little bird's, Izanami's Izanami's	

In this example, the mother's remarks seem to have no effect on Izanami, although Izanami clearly influences her mother.

2. Answers to questions, typically answers to examination questions of the "what's this?" kind, but also to a much smaller number of true information questions where the parent is seeking information from the child. An example of the first kind, from Murasaki's mother, is: "How many goldfish do you have?", a question the child answered. Examples of the second kind generally

involved attempts to find out what the child wanted: "Do you want a strawberry?"

3. Replies by the child and other comments. After Murasaki's mother had talked about Murasaki having played in the park with her grandfather, Murasaka said, "A big girl was there, wasn't she?" (Onechan kiteta ne): an example of a comment stimulated by the mother's remark which presumably would not have been uttered otherwise. A different example is the following: Murasaki's mother warns, "Don't kick the mike" (Maiku ketobasanaide); Murasaki replies, "Sorry!" (Gomennaisai!).

4. Rejection of adult remarks, generally with an emphatic negative. Izanami's mother said that Izanami looked like a big girl going to kindergarten, to which Izanami replied: "No!" (iya da!).

5. Miscellaneous indications, such as compliance with requests.

Even with these generous definitions of adult influence on child speech, only 65% of Izanami's utterances appear to be influenced by adult speech, and 55% of Murasaki's utterances (Table 1). These figures probably overestimate the degree of influence that ordinarily occurs in these families, since the mothers were aware that they were under observation and knew of course of the tape recording. They clearly were making a deliberate attempt to influence their children's linguistic behavior during the recording sessions. The most blatant example of such influence occurs in the category of "answers." The children were subjected to a fairly continuous bombardment of "what's this?" examination questions in

order to elicit names (Murasaki especially). If we exclude all answers to such questions, the level of judged influence drops to 54% of all child utterances in Izanami's speech and to 41% of all child utterances in Murasaki's speech (Table 2). Both Table 1 and Table 2 are based on the four sessions with each child that were recorded during the month before and the month after their third birthdays.

What are some characteristics of children's speech when it is not under the influence of adult speech? One example from Izanami was given earlier, where the child perseverated or self-imitated her own speech. The mother's persistent attempts to intervene had no effect. The following example from Murasaki's record illustrates other characteristics:

Murasaki	Mother
Is this hot?	
I'll give you some food	
I'll cook a meal	
Murasaki's dress is nice	
	I washed it already
This	
	This is a one-piece dress for Murasaki-chan, isn't it?
I'm setting the table	
I'm busy	
	What are you doing?
I'm cooking	
I want to take a bath	

There is a series of utterances by the child that have some kind of internal connection within the series. The mother responds now and then and tries to break in, but Murasaki does not respond in turn (her utterance, "I'm cooking," after her mother's, "what are you doing?" is ambiguous in this regard). In the case of the

TABLE 1

Percentage of Children's Utterances Judged to Show Adult Influence

Child	Category of Utterances					
	Imitations	Answers	Replies	Rejections	Miscell.	Total
Izanami	20	23	17	5	0	65
Murasaki	14	23	13	3	2	55

TABLE 2

Percentage of Children's Utterances Judged to Show Adult Influence with Answers Removed

Child	Category of Utterances				
	Imitations	Replies	Rejections	Miscellaneous	Total
Izanami	25	22	6	1	54
Murasaki	18	17	4	2	41

series above, there seem to be two themes, one about food and the other about preparation ("food" and "meal" are the same Japanese word, gohan, and "preparing" or "cooking" a meal involve the same verb, tsukuru). This elaboration of speech around a theme is a common characteristic of children's speech when it is not influenced by adults. Weir (1962) observed her son at two-and-one-half systematically varying grammatical and phonological paradigms as he talked to himself, privately, before going to sleep.

Speech constructed around phonological themes also occurs with Izanami and Murasaki, even when they are in the presence of adults who try (unsuccessfully) to hold a conversation with them. The following example from Murasaki shows such a "drill" clearly. It begins with a partial imitation of an actual word (kirei, "pretty"), but immediately becomes modulated into a series of sounds based on ki, as if she were attempting to stabilize the sound sequence. Her mother misunderstands the exercise, however, and persists in trying to respond to what Murasaki is attempting to "say."

Murasaki	Mother
	kirei ne (pretty, isn't it?) nan desho (what could it be?)
kiene kie	
	kirei ne
kire kiye	
	nani? kore? (what? this?)
kirei ne	
	nani? kore? nani? kore? nani?
kie ne	

	kirei ne
kire ne	
	kore? nani? Murasaki-chan?
kie ne	
	nani? kore?
kie ne	
	koko? nani? (what? here?) nani ga haitteru no? (what's in here?)
kie ne	
	onaji koto bakari itte! (you're saying the same thing!)
kie ne	

A different form of child speech not influenced by adults is, by contrast, apparently completely unsystematic. The child jumps from topic to topic in an incomprehensible way; one can guess, often, what led to the shift of ground, but it is not anything provided by the adult. Here is a typical example from Murasaki:

Murasaki	Mother
A doggy came	
	Can I put the doll on the dog's chair?
Yes	
	Then, I'll put her on it
That's a big doll, isn't it! I sprinkle aji-no-moto over the sweet potatoes Can I put medicine on the elephant	
	He got well Let the doll play the piano
The frog sing	
	Sing a song for the doll Don't pull her hair
Why not? I'm cooking milk a meal	
	You're having a meal?
A large doll, you see?	

A large proportion of the speech of children that is not influenced by adult speech falls into the two categories exemplified

above. One is clearly systematic (drill or self-imitation) and looks very much like a self-imposed paradigmatic exercise. The other appears to be unsystematic, although of course there may be a basis for the child's speech that we cannot find. It is clear, that for utterances in both categories, children are relatively impervious to outside influence. They are not utterly non-responsive, but there are more or less long stretches where, if there are any adult utterances, they seem to have no effect on the child.

It is as if the child were equipped with an internal "shutter," which closes or opens according to whether the child is engaged in some kind of internal linguistic activity. The closing of the "shutter" is clear enough for utterances of the first category above, and presumably it is internal activity also that closes it for utterances of the second category as well.

To return to the question of why the frequency of adult forms does not have an effect on language development, one explanation could be the tendency we have just observed, for children not to attend to parental speech when the children are engaged in some form of internal activity, linguistic or otherwise. Presumably such activity itself can influence language development. It is clear that when the child's "shutter" is closed, adult speech will not have an effect. But, equally, the child's internal requirements for information (set by his stage of development, momentary interests, etc.) can determine when the "shutter" will be open. The determining factors may therefore be internal to the child, both with adult

speech that is gated out and adult speech that is gated in. There is, in this case, little basis for a correlation between acquisition and adult frequency.

References

Brown, R. A First Language. Cambridge: Harvard, 1973.

Ervin, S. Imitation and Structural Changes in Children's Language. In E.H. Lenneberg (ed.), New Directions in the Study of Language. Cambridge: MIT, 1964.

Weir, R. Language in the Crib. The Hague: Mouton, 1962.